



NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

Funding Highlights:

- The National Aeronautics and Space Administration (NASA) is responsible for leading an innovative and sustainable program of exploration with commercial and international partners to enable human expansion across the solar system and bring new knowledge and opportunities back to Earth.
- The Budget takes steps to achieve lunar exploration goals sooner, improve sustainability of NASA's exploration campaign, and increase the use of commercial partnerships and other procurement models to enhance the efficiency and effectiveness of NASA programs.
- The Budget includes \$363 million to support commercial development of a large lunar lander that can initially carry cargo and later astronauts to the surface of the Moon.
- The Budget focuses funding for the Space Launch System (SLS) rocket, a heavy-lift expendable launch vehicle, to ensure the rocket is operational in the early 2020s when it will be needed to carry astronauts to the vicinity of the Moon.
- The Budget requests \$21 billion for NASA, a \$283 million or 1.4-percent increase from the 2019 estimate.

The President's 2020 Budget:

NASA supports growth of the Nation's economy in space, increases understanding of the universe and America's place in it, works with industry to improve America's aerospace technologies, and advances American leadership. The Budget supports an innovative and sustainable program of space exploration by using novel approaches to partner closely with American industry, funding transformative technologies that will lower the cost and increase the capabilities of the Nation's space activities, while focusing on key capabilities to meet long-term exploration outcomes.

Continues Building the Key Components that Would Send Astronauts to the Moon and Beyond. The Budget proposes funding for key components of NASA's exploration campaign, including: the SLS and Orion crew capsule to support a first uncrewed test launch in the early 2020s and a steady crewed launch cadence thereafter; the Lunar Gateway, a small way station around the Moon in the mid-2020s; commercial launch capabilities to enable regular, low-cost access to the lunar vicinity and surface; and lunar landers to enable cargo delivery and human access to the lunar surface. The Budget proposes reforms to the SLS program to prevent the program's significant cost and schedule challenges from further diverting resources from other exploration activities. Most

"My Administration is reclaiming America's heritage as the world's greatest space-faring [N]ation. The essence of the American character is to explore new horizons and to tame new frontiers."

President Donald J. Trump
June 18, 2018

notably, the Budget defers funding of upgrades (known as "Block 1B") for the SLS, and instead focuses the program on the completion of the initial version of the SLS and supporting a reliable SLS and Orion annual flight cadence. Lunar Gateway elements would be launched on competitively procured vehicles, complementing crew transport flights on the SLS and Orion. This approach would accelerate commercial lunar delivery capabilities critical to U.S. exploration objectives and speed up the timeline for lunar surface exploration.

Increases Funding for New Technologies, Partnerships, and Approaches to Accelerate Exploration while Making It More Affordable.

The Budget supports robust funding for exploration technology research and development, with an increase in funding to support lunar surface activities. These efforts prioritize developing the capacity to understand and potentially utilize lunar resources to reduce transportation costs both to and from the Moon as well as to enhance lunar exploration capabilities. The Budget also supports use of commercial capabilities to deliver science and technology payloads to the Moon in preparation for future exploration. In addition, the Budget supports a major new initiative to support competitive commercial development of a large lander that would first carry cargo, and then crew, to the lunar surface.

Drives toward a Vibrant, U.S.-Led Economy in Earth Orbit. The Budget provides funding for the International Space Station as well as for new commercial space capabilities that will facilitate a transition to a more robust and cost-effective approach to human space activities near the Earth. By 2025, the Budget envisions commercial capabilities on the International Space Station as well as new commercial facilities and platforms to continue the American presence in Earth orbit. The Budget also increases funding for innovative activities conducted in orbit, including microgravity research and in-space robotic manufacturing and assembly. NASA would also expand its reliance on existing commercial space activity by creating a new Communications Services Program that would begin to purchase commercial communications services to return data generated by science missions back to Earth.

"President Trump and our entire Administration believe that America's prosperity, security, and even our national character, depend on American leadership in space. And over the past year, the world has seen the vital role that private enterprise plays to advance American leadership in outer space."

Michael R. Pence
Vice President
February 21, 2018

Supports an Ambitious Program of Solar System Exploration. The Budget provides \$2.6 billion for Planetary Science, including approximately \$600 million for a mission to Jupiter's moon Europa that would launch in 2023. By launching that mission on a commercial launch vehicle, NASA would save over \$700 million, allowing multiple new activities to be funded across the Agency. The Budget would also initiate a mission to return samples from Mars, a top priority of the science community that also supports future human exploration. The Budget fully funds the James Webb Space Telescope, which is planned to be NASA's premier observatory of the next decade.

Replenishes Resources for Crosscutting Mission Support Activities. Each NASA mission rests on a sound foundation of institutional capabilities that keep the Agency functioning. The Budget

increases investments in mission support areas such as facility maintenance, information technology and mission safety to ensure that critical services and assets are ready and reliable when needed. The Budget also funds numerous construction programs, including \$126 million to consolidate research and production facilities at two NASA Centers.

Supports Transformative Aeronautics Technology Research. The Budget funds cutting-edge aeronautics research to boost U.S. technological and economic leadership and support high-quality American jobs. The Budget funds continued development of the X-59 Quiet Supersonic Technology demonstrator to usher in a new era of U.S.-led supersonic transportation. The Budget also supports development of capabilities that could be used to make commercial air travel more efficient, enables expanded operation of commercial unmanned vehicles in U.S. airspace, and begins a new partnership with industry to enable a potential new urban air mobility market.

Redirects Funds from Lower Priority Science and Education Programs to Higher Priorities. Consistent with prior budgets, the Budget provides no funding for the WFIRST space telescope, two Earth science missions, and the Office of Science, Technology, Engineering, and Mathematics (STEM) Engagement. Lower-cost STEM-related activities such as internships and robotics competitions funded outside of the Office of STEM Engagement continue to be supported.